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(71) Applicant (for all designated States except US): BAE SYSTEMS INFORMATION AND ELECTRONIC SYSTEMS INTEGRATION INC. [US/US]; 65 Spit Brook Road NHQ01-719, Nashua, NH 03061 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): KUPPENHEIMER, John, D. [US/US]; 100 Brookfield Road, Tewksbury, MA 01876 (US). WING, William, F. [US/US]; 24 Wesson Road, Ashland, MA 01721 (US).

(74) Agent: LONG, Daniel, J.; Bae Systems Information and Electronic Systems Integration Inc., 65 Spit Brook Road, NHQ01-719, Nashua, NH 03061 (US).

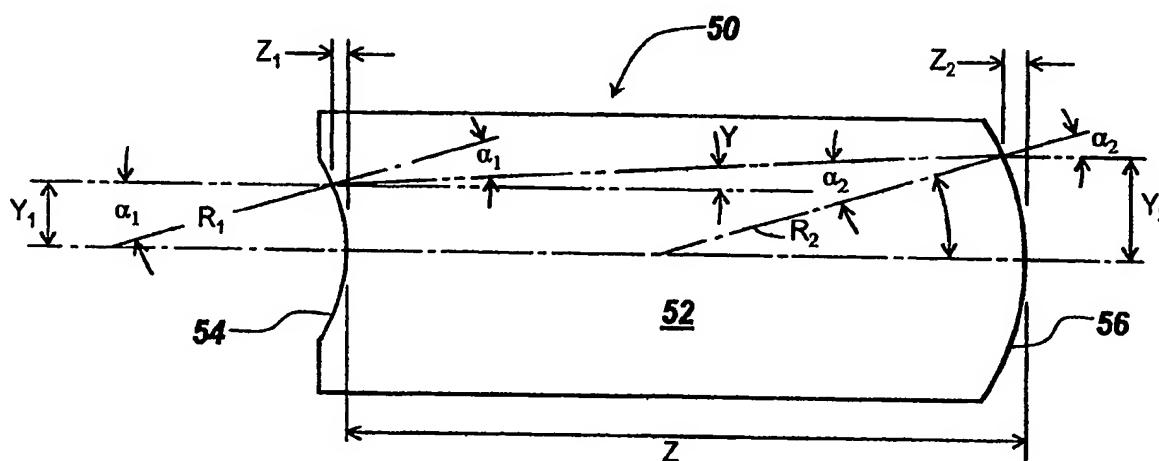
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(54) Title: SINGLET TELESCOPES WITH CONTROLLABLE GHOSTS FOR LASER BEAM FORMING



(57) Abstract: A singlet telescope is provided for reshaping the laser beam to a larger or smaller diameter while maintaining the inherent quality of the beam. Applications for the singlet telescope include intercavity expansion to accommodate the damage threshold of various components, expansion of beams to match the size of different wavelengths for final collimation, and shrinking of beams to provide high irradiance for nonlinear processes such as optical parametric oscillation and frequency doubling, with the above applications usually requiring low power magnification or demagnification. Problems involving the utilization of these telescopes over wide temperature ranges and ghost reflections in which a light is reflected back to a pumping laser are minimized with the singlet construction, with the ghost reflections potentially creating damage of components including self-damage or breakdown of air, as well as damage to a Q-switched resonator which causes pre-lasing.

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